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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/602,519	06/24/2003	J. Byron Strickland	7691-ONES	8748

7590 01/07/2005

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EXAMINER

METZMAIER, DANIEL S

ART UNIT	PAPER NUMBER
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1712

DATE MAILED: 01/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/602,519

Applicant(s)

STRICKLAND ET AL.

Examiner

Daniel S. Metzmaier

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 14-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1-19 are pending.

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C.

121:

- I. Claims 1-13, drawn to an alkoxylate alkylphenol-arylaldehyde polymer and compositions thereof, classified in class 516, subclass 183.
- II. Claims 14-15, drawn to methods of making alkoxylate alkylphenol-arylaldehyde polymer, classified in class 525, subclass 507.
- III. Claims 16-19, drawn to methods of resolving water-in-oil emulsions , classified in class 210, subclass 708.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions of Group II and Group I are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the products can be made by a materially different process such as those processes that employ a polyether halide rather than about 1 to about 30 molar equivalents of one or more alkylene oxides. Furthermore, the use of about 1 to about 30 molar equivalents of one or more alkylene oxides reacted with the alkylphenol-arylaldehyde polymer having 1 to 40 monomer units of formula I and 0 to 39

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monomer units of formula II would not produce the claimed m and n values independently 1 to about 30.

3. Inventions of Group I and Group III are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)).

In the instant case the products may be employed in a materially different process such as for demulsifying oil-in-water emulsions.

4. Inventions Group II and Group III are related as process of making and process of using the product. The use as claimed cannot be practiced with a materially different product. Since the product is not allowable, restriction is proper between said method of making and method of using. The product claim will be examined along with the elected invention (MPEP § 806.05(i)).

5. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

6. Because these inventions are distinct for the reasons given above and the search required for Group II is not required for Group I, restriction for examination purposes as indicated is proper.

7. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

Election of species

8. Claims 1, 3-11, 13-19 are generic to a plurality of disclosed patentably distinct species comprising R_2 and R_{10} defined as H or C_1 - C_{18} alkyl; C_5 - C_{10} aryl; hydroxy; alkoxy; or halogen. Applicant is required under 35 U.S.C. 121 to elect a single disclosed species, even though this requirement is traversed.

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

9. During a telephone conversation with Michael B. Martin on January 4, 2005 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-13; the species, wherein R_2 and R_{10} are defined as H. Affirmation of this election must be made by applicant in replying to this Office action. Claims 14-19 have been withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 112

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

11. Claims 1-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claimed alkoxylate

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alkylphenol-arylaldehyde polymers are indefinite as to structure and the metes and bounds of the claimed subject matter since the amount or content of the monomer units is inconsistent with the monomer unit ratio. More specifically, the monomer unit ratio of formula I to II is claimed as 1 : 10 to 10 : 1. It is unclear how the number of monomer units of formula II is zero (0) and the ratio of formula I to II is 1 : 10 to 10 : 1. Furthermore, claims 3 and 11 are not possible if the formula ratios exist as claimed.

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

13. For the following rejections, the claimed ratio has been interpreted as claimed when formula II (or formula VIII) is present. Said interpretation is consistent with claims 3 and 11, wherein said formula is absent.

14. Claims 1-13 are rejected under 35 U.S.C. 102(b) as being anticipated by De Groote et al, US 2,499,370. De Groote et al (Tables bridging columns 51-54 employing example 29a, 30a and 31a and column 22 delineating the compositions of 29a, 30a and 31a) discloses compounds reading on the instantly claimed compounds, wherein the monomer unit of formula II or VIII equal zero (0).

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De Groote et al (column 2, lines 36 et seq) discloses related compounds to those instantly claimed wherein the structures set forth in De Groote et al employ formaldehyde in the description rather than the instantly preferred benzaldehyde. De Groote et al clearly discloses the repeating units are within the range of 1 to 13, which is clearly within applicants' monomer range. De Groote et al further discloses the degree of alkoxylation including ethoxylation is 1 to 20 with the proviso that the average degree of alkoxylation per alkylphenol unit is at least 2.

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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17. Claims 1-2, 4-10 and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over De Groote et al, US 2,499,370. De Groote et al (column 2, lines 36 et seq; Tables bridging columns 51-54 employing example 29a, 30a and 31a and column 22 delineating the compositions of 29a, 30a and 31a) discloses demulsifier compounds, employing both benzaldehyde or formaldehyde as well as other aldehydes as set forth in the above anticipation rejection.

De Groote et al differs from the claims in the exemplified use of mixture benzaldehyde and formaldehyde in a ratio of 1 : 10 to 10 : 1.

De Groote et al (column 5, lines 16 et seq) discloses cyclic aldehydes, particularly benzaldehyde may be employed as the aldehyde and De Groote et al clearly discloses (lines 38-40) the use of two or more of the aldehydes although without any particular ratio.

It would have been obvious to one of ordinary skilled in the art at the time of applicants' invention to employ two or more of the aldehydes disclosed in De Groote et al for their aldehyde function. Furthermore, it would have been obvious to one of ordinary skilled in the art at the time of applicants' invention to employ mixtures of formaldehyde and benzaldehyde specifically mentioned in the De Groote et al reference. Regarding the ratio of the use of the specified aldehydes, one having ordinary skill in the art following the De Groote et al teachings would have expected the use of mixtures of aldehydes to function in similar fashion. It would have been obvious to one of ordinary skilled in the art at the time of applicants' invention to vary the ratio of the aldehydes with the reasonable

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expectation of similar results. Applicants have not shown the claimed ratio range to be critical to the invention.

18. Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over De Groote et al, US 2,499,370, as applied to claims 1-13 above, and further in view of De Groote et al, US 2,629,705. De Groote et al '370 (column 2, lines 36 et seq; Tables bridging columns 51-54 employing example 29a, 30a and 31a and column 22 delineating the compositions of 29a, 30a and 31a) discloses demulsifier compounds, employing benzaldehyde or acetaldehyde as set forth in the above anticipation and/or obviousness rejections.

De Groote et al '370 differs from the claims in the exemplified use of mixture benzaldehyde and acetaldehyde in a ratio of 1 : 10 to 10 : 1.

De Groote et al '370 (column 5, lines 16 et seq) discloses cyclic aldehydes, particularly benzaldehyde may be employed as the aldehyde, acetaldehyde (line 26 and example 76a) and De Groote et al '370 clearly discloses (lines 38-40) the use of two or more of the aldehydes although without any particular ratio.

De Groote et al '705 is directed to alkoxylated alkylphenol-aldehyde resins. De Groote et al '705 (column 4, lines 45-61, particularly lines 52-53) discloses the use of particular aldehyde combination including benzaldehyde with acetaldehyde (CH₃COH). The use of acetaldehyde would result in structures where R₅ of formula II and VIII is methyl.

These references are combinable because they teach alkoxylated alkylphenol-aldehyde demulsifiers. It would have been obvious to one of

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ordinary skilled in the art at the time of applicants' invention to employ the combination of benzaldehyde with acetaldehyde (CH_3COH) as an art known combination for their use in demulsifying compositions.

Double Patenting

19. Applicant is advised that should claims 1 and 3 be found allowable, claims 10 and 11 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Conclusion

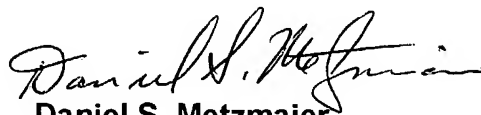
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel S. Metzmaier whose telephone number is (571) 272-1089. The examiner can normally be reached on 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P. Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Daniel S. Metzmaier
Primary Examiner
Art Unit 1712

DSM